AMENDMENTS TO THE SPECIFICATION

Page 1, first paragraph, delete in its entirety, and replace with the following:

The present invention relates in general to an optical amplifier operating on the principle of optical parametric amplification or four-wave mixing optical amplification, and more particularly to an optical amplifier in which phase matching between signal light and pump light is easily achieved and, hence, effective optical amplification of the signal light can be obtained over a broad frequency band.

Page 1, second paragraph, delete in its entirety, and replace with the following:

Optical amplifiers of the type in which the amplitude of the electric field of light is directly amplified are applicable to the following uses in the optical fiber transmission system ~~and on the optical amplifiers of this type is being made in various areas~~:

Page 1, third paragraph, delete in its entirety, and replace with the following:

By increasing the output of a light source of the signal light in an optical transmitter, the transmission distance can be increased. When the optical amplifier is used for the light source of local light in an optical receiver ~~on~~ in a coherent optical wave communication system, the reception sensitivity can be improved.

Page 2, fourth paragraph, delete in its entirety, and replace with the following:

From the US 5,274,495 an optical amplifier is disclosed ~~which,~~ which is adapted such that signal light and pump light are propagated through an optical waveguide structure therein made of an optically nonlinear material to thereby achieve optical parametric amplification or four-wave mixing optical amplification of the signal light, and which is provided with means for

attenuating idler light to be generated within the optical waveguide structure by adding special dopants to the fiber.

Page 3, fourth full paragraph, delete in its entirety, and replace with the following:

According to a preferred embodiment of the present invention, the optical waveguide structure is cut ~~of~~ off by a separate idler wave filter ~~mean~~ means absorbing the idler light.

Page 4, between the sixth and seventh paragraphs, insert the following heading:

DETAILED DESCRIPTION OF THE INVENTION.

Page 4, seventh paragraph, delete in its entirety, and replace with the following:

Fig. 1 shows an example of a realization of an optical amplifier using the invention. It is mainly composed of a pump device 1 and a piece of amplifying fiber 2 ~~which~~ whose length is L. A signal 3 is tapped via a coupler 4 to the amplifying fiber to be amplified. A filter 5 cuts off the piece of amplifying fiber. The optical filter 5 is placed at the distance L_{max} in the piece of amplifying fiber.

Page 5, before the last full paragraph, insert the following:

where P_{so} is signal power.

Page 6, third paragraph, delete in its entirety, and replace with the following:

Fig. 5 show the calculation of an example, with a highly nonlinear fiber (zero-dispersion wavelength 1529.2nm, dispersion slope 0.03ps/nm^2/km and nonlinear coefficient $10W^{-1}.km^{-1}$) and a pump (λ_p = 1530nm, P_p = 1W), parametric gain has been calculated for several single signals (P_s =0 dBm) with and without a filter. The filter suppresses the idler waves of signal

wavelengths superior to 1546nm, when it is placed at 450m from the input. The total length is 700m. In the case of the prior art solution, the total length is 500m.

Page 6, fourth paragraph, delete in its entirety, and replace with the following:

With the filter, a single-channel signal with wavelength inferior to 1546nm could be more amplified: at 1543nm, an improvement of 4.8dB has been calculated. And for wavelengths ~~which~~ of idler waves that are filtered, no drawbacks have been noticed.

Page 7, second paragraph, delete in its entirety, and replace with the following:

The filter 5 for suppressing or attenuating the idler wave can be any filter that is suitable and ~~know~~ known by persons skilled in the art.